

UNITED STATES PATENT APPLICATION FOR
"TRASH CAN ASSEMBLY"

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TRASH CAN ASSEMBLY

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BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to household items, and in particular, to a trash can assembly that allows for convenient and sanitary replacement of a trash bag from an internal liner.

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2. Description of the Prior Art

A major concern for both the home and the workplace is containing and holding wastes, refuse, and trash until permanent disposal. Trash cans act as containers for holding trash and other wastes that are produced in any typical home or office. Trash and garbage cans often employ lids and covers to contain the trash and its associated odor, to

15 hide the trash from view, and to prevent the trash from contaminating areas beyond the lid.

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Conventional trash cans have been improved over the years to make them more user-friendly, sanitary, and hygienic. For example, many trash cans are now provided with a foot pedal positioned adjacent the base of the trash can so that a user can step on the foot pedal to open the lid of the trash can, thereby freeing up the user's hands to toss trash,

20 or to change the plastic liner or bag that is used to line the trash can. Other trash cans have even provided an internal metal or plastic liner that fits inside the trash can, and which can be removed to be washed. However, these conventional trash cans still suffer from a number of drawbacks.

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A number of these drawbacks are associated with the internal liner. In conventional

25 trash cans, a trash bag is fitted over the internal liner, and the user typically needs to raise the liner from the interior of the trash can to remove the trash bag. When the user raises the liner from the trash can, the user may need to grip portions of the trash bag on the interior of the liner, so that the user's fingers may come into contact with dirt, germs or trash items. In addition, the user often needs to remove the entire internal liner to replace

30 the trash bag because there is no mechanism for maintaining the liner in a raised position with respect to the trash can when the user is replacing the trash bag. Unfortunately, the removal of the internal liner is not sanitary since this might result in the spillage or spread of waste material.

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Thus, there remains a need for a trash can that facilitates the convenient and

35 sanitary replacement of a trash bag from an internal liner.

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SUMMARY OF THE DISCLOSURE

It is an object of the present invention to provide a trash can assembly that allows
5 the user to remove an internal liner in a sanitary manner.

It is another object of the present invention to provide a trash can assembly that facilitates the convenient and sanitary replacement of a trash bag from an internal liner.

In order to accomplish the objects of the present invention, there is provided a trash can assembly that has a shell, a liner fitted inside the shell, a lid fitted over the top end of
10 the shell, a foot pedal positioned adjacent the bottom end of the shell, a link assembly coupling the foot pedal and the lid, and a support block provided adjacent the bottom end of the shell for supporting the liner in a raised position with respect to the shell.

In use, the user can fit a trash bag inside the liner, and then seat the liner inside the shell. To replace the trash bag, the user can raise the liner with respect to the interior of
15 the shell, and support the liner on the support block in a raised position with respect to the shell while removing the trash bag.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of a trash can assembly according to one
20 embodiment of the present invention shown with an internal liner partially raised from within the shell of the trash can assembly.

FIG. 2 is a perspective skeletal view of certain internal components of the trash can assembly of FIG. 1.

FIG. 3 is a perspective skeletal view of the link assembly that couples the foot pedal
25 and lid of the trash can assembly of FIG. 1.

FIG. 4 is a perspective view of the trash can assembly of FIG. 1 illustrating the internal liner fitted completely inside the shell.

FIG. 5 is a perspective view of the trash can assembly of FIG. 1 illustrating the internal liner partially raised from within the shell.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following detailed description is of the best presently contemplated modes of carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating general principles of embodiments of the
35 invention. The scope of the invention is best defined by the appended claims. In certain

instances, detailed descriptions of well-known devices and mechanisms are omitted so as to not obscure the description of the present invention with unnecessary detail.

5 FIGS. 1-5 illustrate one embodiment of a trash can assembly 20 according to the present invention. The assembly 20 has a shell 22 and an internal liner 24 that is adapted to be retained inside the shell 22. The shell 22 can be made from either plastic or metal. The liner 24 is essentially a container, and can also be made from either plastic or metal. The shell 22 is an enclosing wall which can have any desired shape, including oval,
10 triangular, rectangular, square or circular (among others). The liner 24 can have the same shape as the shell 22. An upper support frame 28 can be secured to the opened top of the shell 22, and can be provided in a separate material (e.g., plastic if the shell 22 is metal) from the shell 22.

A lid 32 is hingedly connected to the upper support frame 28 using hinged
15 connections that are well-known in the art, and will not be described in greater detail herein. As one non-limiting example, the lid 32 can be hingedly connected to the shell 22 in the manner that is described in U.S. Publication No. US-2002-0079315-A1, published on June 27, 2002 and entitled "Trash Can Assembly With Toe-Kick Recess", whose entire disclosure is incorporated by this reference as though set forth fully herein. The shell 22
20 and its lid 32 can be made of a solid and stable material, such as a metal. The shell 22 has a base 34, and a foot pedal 36 is pivotably secured to the base 34.

Referring to FIG. 3, a link assembly 38 extends from the foot pedal 36 along the base 34 and then upwardly along the shell 22 to the upper support frame 28 and the lid 32.

The link assembly 38 operates to translate an up-down pivot motion of the pedal 36 to an
25 up-down pivot motion for the lid 32. The construction and operation of link assemblies are well-known in the art, and will not be described in greater detail herein. As one non-limiting example, the link assembly 38, foot pedal 36 and lid 32 can be constructed in accordance with that which is described in U.S. Publication No. US-2002-0079315-A1, published on June 27, 2002 and entitled "Trash Can Assembly With Toe-Kick Recess".

30 The base 34 of the shell 22 defines a generally annular and curved skirt or flange portion 42. In one embodiment of the present invention, the skirt 42 is formed in one plastic piece. The shell 22 can be attached to the top of the skirt 42 of the base 34 by a groove snap-on, glue, welding, screws, and similar attachment mechanisms. A support block 44 is provided on the rear part of the base 34, adjacent the link assembly 38. The
35 support block 44 can be embodied in the form of a plastic or metal block having a height

that is, in one non-limiting embodiment, at least one inch, and through which the link assembly 38 can extend.

5 The upper support frame 28 has an annular recessed wall 46. One or more cut-outs or grooves 48 are spaced-apart about the wall 46. The grooves 48 allow the user to insert his or her fingers through the grooves 48 under the upper lip 50 of the internal liner 24 to lift the internal liner 24 from the interior of the shell 24 when the lid 32 is opened. This provides a convenient way for the user to remove the internal liner 24 from the shell 22,
10 without requiring the user to place his or her hands inside the internal liner 24 to grip the internal liner 24.

FIG. 4 illustrates the trash can assembly 20 with the lid 32 pivoted to the open position, and with the internal liner 24 completely seated inside the interior of the shell 22. In this position, the lip 50 of the liner 24 is preferably aligned with the top annular edge 52
15 of the annular wall 46. As best seen in FIG. 4, a portion of the lip 50 of the liner 24 can be accessed via any of the grooves 48 in the annular wall 46. Thus, the user can raise the liner 24 by gripping the lip 50 via any groove 48.

Once the liner 24 has been raised, the user can tilt the bottom 58 of the liner 24 towards the link assembly 38 (i.e., towards the rear of the shell 22) so that the bottom 58 of
20 the liner 24 is seated on top of the support block 44, as shown in FIGS. 1 and 5. Thus, the support block 44 functions to maintain the liner 24 at a position where the liner 24 is slightly raised with respect to the shell 22, so as to provide sufficient clearance for the user to grip the trash bag. The user can then remove the existing trash bag, and replace it with a new trash bag, all while the liner 24 remains inside the shell 22. When the user has completed
25 the replacement of the trash bag, the user can lift the internal liner 24 slightly and then tilt the bottom 58 of the liner 24 away from the link assembly 38 (i.e., towards the front of the shell 22) so that the bottom 58 of the liner 24 can be fitted via gravity on the top surface of the base 34, as shown in FIG. 4.

The above detailed description is for the best presently contemplated modes of
30 carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating general principles of embodiments of the invention. The scope of the invention is best defined by the appended claims. In certain instances, detailed descriptions of well-known devices, components, mechanisms and methods are omitted so as to not obscure the description of the present invention with
35 unnecessary detail.